REMARKS/ARGUMENTS

I. Concerning the Amendments

New Claim 48 is presented to cover a preferred embodiment of the invention, and contains the following elements: a curtain that provides a coating having at least one layer with a coatweight when dried of less than about 30 g/m^2, a curtain with a solids content of at least about 40 wt.%, a curtain interface layer having a viscosity of at least about 430 centipoise, a curtain having a top layer providing printability and having a viscosity of at least about 1040 centipoise, and a curtain comprising at least two layers imparting at least two different barrier functionalities selected from the group consisting of oil and/or grease barrier functionality, water vapor barrier functionality, water resistance functionality, and oxygen barrier functionality. Claim 48 further provides that the curtain is contacted with a continuous basepaper or paperboard web substrate having a velocity of at least about 200 m/min. New Claim 48 is supported throughout the claims and specification, for example, at Claims 1, 35 and 41. Support for the limitation "the interface layer of the curtain has a viscosity of at least about 430 centipoise" is found in Table 1. Similarly, support for the limitation that the top layer have a viscosity of at least about 1040 centipoise is found in Table 1.

New Claims 49 and 50 are supported by the original claims and specification. New Claim 51 provides that at least one barrier layer comprises polyethylene. Basis for this is found in the specification at page 8, line 1.

New Claim 52 provides that each layer of the curtain have a viscosity of at least about 300 centipoise. Support for this new claim is found in Table 1.

II. Supplemental Information Disclosure

Applicants previously cited the presence of several copending applications. As a precaution, even though Examiner could already be aware of references cited in the files of those copending applications, such references that recently appeared in the record of any of those copending applications and that are not of record in this application are included on a Form PTO/SB/08A attached to an Information

Disclosure Statement filed herewith. The following table is provided for Examiner's convenience.

Attorney Docket No.	Serial No.	Examiner	Status
61590A	10/257,172	J. Fortuna	Pending
62733C	10/687,324	K. Bareford	Pending
62738C	10/687,322	J. Fortuna	Pending
62739C	10/691,890	K. Bareford	Pending

III. Concerning the Rejection over Prior Art

The latest office action contains multiple rejections based on various combinations of claims and references. For the purposes of this response, unless otherwise indicated, Applicants elect not to separately address rejections that only affect dependent claims; rather, the patentability of each dependent claim stands or falls with that of the independent claim from which it depends.

The outstanding rejections rely on Examiner's apparent theory that the silence of a reference is a generic teaching that there are *no limits* as to a certain aspect of technology. Examiner applies this concept to, for example, Tetra Laval for solids and interface layer viscosity, Kodak for solids, and Katagiri for interface layer viscosity. As a specific example, for interface layer viscosity, Examiner would stretch the teachings of Tetra Laval up and the teachings of Katagiri down to establish overlap between these two references. Examiner would support this concept by arguing that a statement of a preference does not constitute a teaching away from a broader disclosure or nonpreferred embodiments, citing MPEP 2123. However, as also stated in MPEP 2123: "A reference may be relied upon for all that it would have *reasonably suggested* to one having ordinary skill the art, including nonpreferred embodiments." (Citations omitted. Emphasis supplied.) The problem with Examiner's theory is that the silence of a reference on a given point does not constitute teaching. "The mere absence of an explicit requirement of isolation of the phases in example 4 cannot reasonably be construed as an affirmative statement that the phases need not be

isolated." In re Evanega, 4 USPQ2d 1249 (Fed. Cir. 1987). Applicants believe that Examiner is not reading the references for what they fairly teach.

A. Independent Claims 1 and 35

Claims 1, 3-6, 8-22, 24, 25, 27, 29-31, 34, 35, 37 and 42-44 stand rejected under 35 USC 103(a) as being unpatentable over WO 01/54828 (hereinafter Tetra Laval) in view of Wittosch et al. '120 (hereinafter Wittosch) and Katagiri et al. (hereinafter Katagiri).

This rejection is directed to independent Claims 1 and 35, and was addressed in Applicants' previous response, the contents of which are incorporated herein by reference.

Claim 1 claims a method of producing a coated substrate having specified barrier functionality using a multilayer curtain coating process wherein the curtain interface layer has a viscosity of at least about 100 centipoise, the curtain has a total solids content of at least about 40 weight percent, and the curtain has a top layer to provide printability.

Independent Claim 35 is directed to a method of multilayer curtain coating wherein the curtain has an interface layer having a viscosity of at least about 100 centipoise, has a top layer to provide printability, provides at least two different barrier functionalities, and is contacted with a moving substrate having a velocity of at least about 200 m/min.

Wittosch discloses a process for making multilayer coatings by means of sequential single layer coating steps. The finished coating provides wax-free resistance to water and water vapor. The resulting coated paper is recyclable and repulpable since it is wax-free. At column 3, line 58, he teaches that the coated paper stock also exhibits grease resistance. He teaches that the viscosity of a singly-applied coating dispersion is preferably in the range of 20 to 1000 centipoise. At column 6, he discloses that his coatings can be applied using various methods, including single layer curtain coating. Coating speed is not mentioned. He discloses that the solids content of each singly-applied coating layer is generally greater than 20%, and preferably is from 40 to 55%.

Tetra Laval, at page 4, teaches that a Wittosch-type process, e.g. applying single wet coating layers with intermediate drying steps, is "not advantageous" because of the risk of crack formation or damage to the substrate. The Tetra Laval invention is a multilayer packaging laminate comprising at least one layer having a wet thickness of no more than 20 μm and at least one layer having oxygen barrier or oxygen scavenging properties. Multilayer curtain coating is used wherein the bottom layer has a "low viscosity" of preferably 50 mPas or less, more preferably from 5 to 10 mPas. The total solids content of the applied layers preferably is between about 5 and 25%. Coating speed is not mentioned.

Katagiri discloses a multilayer curtain coating process wherein the curtain has at least three layers, and wherein at least one intermediate layer has a viscosity of more than 300 mPas, and wherein the interface layer has a viscosity of from 150 to 300 mPas. Katagiri is directed to solving a problem related to splicing. Example 1 uses an interface layer having a viscosity of 150 mPas at a shear rate of $10s^{-1}$, a coating speed of more than 200 m/min., and a solids content of 5%. Katagiri concludes in paragraph [0052] that an interface layer viscosity of 350 mPas was unacceptable since a stable curtain could not be formed.

Examiner argues that Tetra Laval teaches all the features of Claims 1 and 35 except for seven features, including web speed, viscosity of the interface layer, solids content, the combination of different layer materials, and printability. Examiner then argues that Wittosch describes that the layers can have solids over 40% and combinations of different barrier layers, and that the viscosity of the layers "can include 250-450 cps layers and 40-75 cps layers," citing the passage at column 7 showing the application of 2 separate layers via rod coating. Examiner then cites Katagiri as teaching multilayer curtain coating where the interface layer has a viscosity of 150 centipoise, and that velocities of 300, 400, and 500 m per minute are possible. Thus, Examiner argues that the references collectively literally contain the disjointed elements of Applicants' Claims 1 and 35 except for the element that specifies that the curtain comprises a top layer providing printability. To cure this deficiency, Examiner asserts that, because Tetra Laval teaches that food and drink

packages can be made, "packages are well known to be printed and provided with color for consumer use."

Applicants note several issues with the rejection. For example, while Examiner cites Katagiri as teaching that the interface layer can have a viscosity of 150 centipoise, this appears to conflict with the teachings of Tetra Laval that the interface layer should have a low viscosity, preferably less than 50 centipoise, more preferably 5 to 10 centipoise. Additionally, while Examiner would rely on the teachings of Wittosch to provide several process elements, Wittosch used a substantially different process, namely a *single layer* coating process whereby multilayer coatings are prepared by applying each layer separately followed by a drying step. Applicants submit that it is well-known that multilayer curtain coating is far more complex than single layer curtain coating, see the declaration of Dr. Bauer, of record and publicly available in the related copending application serial number 10/691,890 cited hereinabove, the contents of which are incorporated herein by reference. Said declaration refers to the Alleborn reference cited in connection with the enclosed Information Disclosure Statement. Furthermore, while Examiner submits that it is well known that packages are printed, this ignores the fact that it is also well-known that packages prepared by the process of Tetra Laval are not printed on the layer created from the top layer of the Tetra Laval multilayer curtain. Tetra Laval does not apply a printable layer via multilayer curtain coating. For example, see Tetra Laval at page 5, lines 6 et seq. which states: "The invention includes a method as described above *further comprising* applying one or more coating layers over the dried layers." (Emphasis supplied.) At the end of page 8, Tetra Laval discloses multilayer coatings. In each instance, the top and bottom layers are an adhesive layer, i.e. not a layer providing printability. There is no teaching in Tetra Laval of applying a multilayer curtain coating having a top layer providing printability.

Examiner is invited to submit an affidavit or cite a reference to support the allegation that Tetra Laval's packages are printed on the top layer provided by the multilayer curtain.

Examiner's position appears to be that the claimed invention is obvious since the references contain most of the elements of Applicants' claims, and since it would

have been obvious to pick and choose the remaining various elements from the references and then apply routine experimentation, ignoring conflicting teachings of the references, to arrive at the subject matter of Applicants' claims.

The obviousness standard was recently addressed by the U.S. Supreme Court. The Court makes it clear that analysis establishing an apparent reason to combine known elements in the fashion set forth by the Office must be explicit and more than conclusory statements. "[T]here must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." KSR Int'l Co. v. Teleflex Inc., 127 S.Ct. 1727 (2007).

In KSR, the Court also addressed combinations as follows: "a court must ask whether the improvement is more than the predictable use of prior-art elements according to their established functions. Following these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement." The Court further stated: "As is clear from cases such as *Adams*, a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." KSR, supra.

Applicants respectfully submit, for the reasons given above, that the record contains no articulated reasoning backed by rational underpinning to support the conclusion of obviousness and that, therefore, no prima facie case of obviousness has been established. Unlike the situation in KSR, supra., which involved a combination of simple, mechanical elements, the subject matter of Applicants' claims are directed to a technology that is relatively complicated, involves far more variables, and is far less predictable.

Applicants respectfully submit that neither Tetra Laval nor Wittosch nor Katagiri contain any teaching that would motivate one of ordinary skill in the art to combine their teachings, and Examiner has not provided any convincing explanation of where such motivation can be found. Katagiri is relevant to the photographic field and is directed to the preparation of low solids content coatings. Both Wittosch and Tetra Laval are in the general field of paper coating, but they are disconnected

references that do not provide one of ordinary skill in the art with any motivation to combine their teachings. For example, Wittosch is directed to the production of recyclable and repulpable coated paper stock, whereas Tetra Laval is directed to a multilayer packaging laminate. Nothing in the references would motivate one of ordinary skill in the art to combine their teachings.

Examiner argues that the references are all in the coating field and that Katagiri is not limited to a given level of solids in his coatings, since Katagiri refers to thermal recording paper and to inkjet paper. That argument may be accurate, but it does not establish the level of solids taught by Katagiri. Even if Katagiri could be interpreted as disclosing coatings at some unknown higher level of solids, that does not resolve the many differences between the references highlighted hereinabove. The fact that the references arguably are in analogous fields is not a source of motivation to combine their teachings. See KSR, supra.

Applicants further request reconsideration in view of fact that the rejection appears to be based upon a hindsight reconstruction of the invention. As stated in In re Sponnoble, 160 USPQ 237, 243 (CCPA 1969): "The court must be ever alert not to read obviousness into an invention on the basis of the applicant's own statements; that is, we must view the prior art without reading into that art appellant's teachings. In re Murray, 122 USPQ 364 (CCPA 1959); In re Sporck, 133 USPQ 360 (CCPA 1962). The issue then, is whether the teachings of the prior art would, in and of themselves and without the benefits of appellant's disclosure, make the invention as a whole obvious. In re Leonor, 158 USPQ 20 (CCPA 1968)." (Emphasis in original.) "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." W. L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 312-313 (Fed. Cir. 1983). Such use of hindsight is clearly forbidden. In re Skoll, 187 USPQ 481 (CCPA 1975).

Examiner argues that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, and is acceptable so long as it does not include knowledge gleaned only from Applicants' disclosure. However, the fact that

the prior art does not show high solids multilayer curtain coating is evidence that the rejection relies upon knowledge that is only present in Applicants' application. If high solids multilayer curtain coating were known, one would expect to see a reference teaching such a process.

Further evidence of the use of hindsight in the construction of the rejection can be found in the fact that Examiner must pick and choose from conflicting teachings of the three cited references just to find most of the elements of the rejected claims, and that the printability aspect of the claims is not found in any of the 3 references. For example, Applicants' independent Claims 1 and 35 both specify that the interface layer have a viscosity of at least 100 centipoise. Katagiri teaches that the viscosity of the interface layer is at least 150 centipoise, and at paragraph [0023] teaches that an unstable curtain results if the viscosity of the interface layer is over 300 centipoise. However, Tetra Laval at page 4 teaches that the interface layer should have a low viscosity, by stating: "Generally in slide coating the bottom layer should have a low viscosity, preferably of 50 mPas or less, more preferably 5-10 mPas." Examiner would interpret this statement as not excluding the 150 centipoise interface layer of Katagiri. Admittedly, the scope of the term "low viscosity" in the quoted statement is indefinite. However, this again raises the issue regarding what a reference can be fairly read to teach. Katagiri encompasses interface layer viscosities of from 150 to 300 centipoise, while Tetra Laval and other references teach much lower viscosities for that layer. If the range of interface viscosities taught by the prior art is from less than 1 up to 300, then it is not a reasonable interpretation of the art to say that a value of 150 centipoise is "low" (per the terminology of Tetra Laval), since 150 is in the middle of the known range. Furthermore, while Katagiri encompasses interface layer viscosities of from 150 to 300 centipoise, in contrast, the *trend* of Tetra Laval's teachings regarding viscosity directs one of ordinary skill in the art toward the very low viscosities 5-10 centipoise. Therefore, Applicants submit that Tetra Laval would *not* motivate one of ordinary skill in the art to use higher viscosities for the interface layer.

Wittosch does not teach multilayer curtain coating, and therefore does not teach anything about the viscosity of the interface layer of a multilayer curtain.

Katagiri teaches that it is critical that at least one intermediate layer have a viscosity of at least 300 mPas (see paragraph [0006] wherein it is stated: "In addition to that, the one or more layers for which coating liquid having viscosity more than 300 mPas is to be used is selected from intermediate layer ... ."), and in Table 1 shows examples of an interface layer having a viscosity of 150 mPas at a shear rate of $10s^{-1}$, but only for a very low (5%) solids curtain. Katagiri at paragraph [0023] teaches that an unstable curtain results if the viscosity of the interface layer and/or top layer is over 300 centipoise. Faced with the conflicting teachings of Tetra Laval and Katagiri, Examiner alleges that the viscosity ranges of Tetra Laval and Katagiri overlap, and that one of ordinary skill in the art would have been motivated, for some unknown reason, to use the higher viscosity interface layer of Katagiri. Applicants submit that the vagueness of the references does not clearly support the allegation that the viscosities overlap. Furthermore, the art contains no guidance that would lead to such a selection. Applicants submit that it is apparent that this selection was based upon a hindsight reconstruction of the invention. Such use of hindsight is forbidden. Only the application of hindsight provides (1) the overlap and (2) the suggested motivation.

Examiner further argues that a statement of a preference does not constitute a teaching away from a broader disclosure or nonpreferred embodiments, citing MPEP 2123. To the extent that Examiner believes that the silence of a reference is a generic teaching that there are *no limits* as to a certain aspect of technology, Applicants respectfully disagree. As also stated in MPEP 2123: "A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments." (Citations omitted.) However, silence is not teaching. "The mere absence of an explicit requirement of isolation of the phases in example 4 cannot reasonably be construed as an affirmative statement that the phases need not be isolated." In re Evanega, 4 USPQ2d 1249 (Fed. Cir. 1987).

Further with respect to Applicants' Claim 1, it is submitted that the claim element of "a multilayer curtain having a solids content of at least 40%" is not present in Tetra Laval, Wittosch, or Katagiri. Katagiri discloses solids contents well below 40%. The only specific disclosure of Tetra Laval relating to solids is a preference for solids of 5 to 25%. Wittosch does not disclose multilayer curtain coating, and thus

contains no relevant teaching as to the solids content of a multilayer curtain. Accordingly, with respect to Applicants' Claim 1, it is submitted that Examiner could only construct this rejection by the use of hindsight, since the references themselves contain no teaching with respect to a multilayer curtain having a solids content of at least 40%. Examiner again argues that the preference of Tetra Laval is not limiting. On the other hand, it is also not a teaching or suggestion that one should or could use a *multilayer* curtain of at least about 40% solids. Even if the references could be construed as covering 40% solids, the preference of the references clearly is toward lower solids, which would not motivate one of ordinary skill to use higher solids.

The patentability of Claim 42 is separately asserted. In addition to the preceding arguments concerning Claim 1, Claim 42 further specifies a paper web substrate velocity of at least 200 m/min. Tetra Laval and Wittosch are silent regarding speed. While Katagiri discloses velocities of over 200 m/min., that is only in connection with coatings having a solids content that is far below 40%. Furthermore, the matter of going from a single layer curtain to a multilayer curtain is complex and it would not be a simple matter to do so. See Alleborn, cited in the declaration of Dr. Bauer, *supra*. Accordingly, Applicants submit that the combination of velocity, solids, and interface layer viscosity of Claim 42 is neither taught nor suggested by the prior art.

Claims 1, 3-6, 8-22, 24, 25, 27, 31, 34, 35, 37 and 42 stand rejected under 35 USC 103(a) as being unpatentable over Tetra Laval in view of Wittosch and JP '810 (hereinafter Konica).

Konica addresses the problem of unstable multilayer curtain flow for the preparation of photographic film. While Konica teaches that multilayer curtain coating at speeds of over 200 m/min., with the curtain having an interface layer viscosity of from 50 to 300 centipoise, can be conducted, one skilled in the art recognizes that Konica employs curtains having very low solids contents. For example, Example 2 of Konica discloses coating solutions having gelatin concentrations of 5.5% and 8%.

Examiner argues that Applicants have made no showing that Konica is limited to low solids coatings. In making a rejection based on §103, the Patent Office has the

initial burden of supplying the factual basis for its rejection. In re Warner and Warner, 154 USPQ 173 (CCPA 1967), cert. denied, 389 US 1057 (1968). Applicants position is that Konica does not teach or suggest a coating process that employs more than a very low, e.g. 8% or less, level of solids. Examiner has not shown otherwise.

Examiner further argues that since there is overlap with the viscosities taught by Wittosch, the solids must overlap. Applicants respectfully disagree. It is well known to one of ordinary skill that photographic film is made with low solids gelatin solutions. Konica is direct to "photosensitive material." While Konica at Claim 3 mentions a gelatin concentration greater than 5%, Applicants believe Examiner will concede that this does not mean that solids of at least 40% are taught by Konica, as that would be reading Konica out of context.

The references do not support a prima facie case of obviousness for the reasons mentioned above in connection with the rejection based on Katagiri. Applicants respectfully submit that neither Tetra Laval nor Wittosch nor Konica contain any teaching that would motivate one of ordinary skill in the art to combine their teachings, and Examiner has not provided any plausible explanation of where such motivation can be found. The hindsight arguments presented above also apply to this Konica-based rejection, except that it is recognized that the teachings of Tetra Laval and Konica may overlap with respect to the viscosity of the interface layer.

Further with respect to Applicants' Claim 1, it is submitted that the claim element of "a multilayer curtain having a solids content of at least 40%" is not present in Tetra Laval, Wittosch, or Konica, for the reasons given above in connection with the rejection based on Katagiri.

The patentability of Claim 42 is separately asserted. In addition to the preceding arguments concerning Claim 1, Claim 42 further specifies a paper web substrate velocity of at least 200 m/min. Tetra Laval and Wittosch are silent regarding speed. While Konica discloses one example of coating on cellulose triacetate film at a velocity of over 200 m/min., that is only in connection with coatings having a solids content that is far below 40%. Applicants again submit that it is well-known that multilayer curtain coating is far more complex than single layer curtain coating, see the declaration of Dr. Bauer, of record, *supra.*, citing Alleborn. For several reasons, it

would not be a simple matter to adapt Tetra Laval by increasing the solids to the level of Wittosch, and by simultaneously increasing the speed of Tetra Laval to that of Konica; especially since that would require using a high solids curtain in the low solids process of Konica. Accordingly, Applicants submit that the combination of velocity, solids, and interface layer viscosity of Claim 42 is neither taught nor suggested by the prior art.

B. Independent Claim 41

Claims 38, 39, 41, and 45-7 stand rejected under 35 USC 103(a) as being obvious over Tetra Laval in view of Wittosch and Katagiri, and further in view of Dittman et al. '024 (hereinafter Dittman).

Dittman discloses a multilayer *bead* coating process that is especially useful for the manufacture of photographic products. He discloses that the process is improved by using a low (from 1 to 8 centipoise) viscosity interface layer in conjunction with a higher viscosity adjacent layer. Dittman does not disclose a multilayer curtain coating process wherein the curtain has a solids content of at least 40%. Indeed, Dittman does not disclose any coating having a solids content of at least 40%.

Dittman adds nothing to the Katagiri rejection addressed hereinabove other than to list polyethylene oxides in a very long list of *surfactants*. However, it is well known that polyethylene oxide is not a surfactant. While polyethylene oxide possibly could be reacted with other compounds to make surfactants, polyethylene oxide itself is not a surfactant. Dittman is clearly referring to a surfactant prepared from polyethylene oxide , and not to polyethylene oxide. Claim 41 specifies the use of polyethylene oxide, not a surfactant prepared from polyethylene oxide.

The arguments presented above with respect to the rejections based on Tetra Laval in view of Wittosch and Katagiri also apply to this rejection.

Further with respect to Applicants' independent Claim 41, it is submitted that the claim element of "a multilayer curtain having a solids content of at least 40%" is not present in Tetra Laval, Wittosch, Katagiri or Dittman, for the reasons given hereinabove.

The patentability of Claim 47 is separately asserted. In addition to the preceding arguments concerning Claim 41, Claim 47 further specifies that the curtain have an interface layer having a viscosity of at least about 100 centipoise. Tetra Laval, Wittosch and Dittman do not disclose such an interface layer. While Katagiri teaches that the interface layer can have a viscosity of 150 to 300 mPas, that is only in connection with curtains having very low solids contents, whereas Claim 47 specifies that the solids content of the curtain be at least about 40%. Furthermore, Dittman teaches away from the use of a high viscosity interface layer for a slide die process. Accordingly, Applicants submit that the combination of velocity, solids, and interface layer viscosity of Claim 47 is neither taught nor suggested by the prior art.

Claims 38, 39, 41 and 46-7 stand rejected under 35 USC 103(a) is being obvious over Tetra Laval in view of Wittosch and Konica, and further in view of Dittman. Applicants believe that the essence of this rejection is addressed above in response to the rejection based on Tetra Laval in view of Wittosch and Katagiri, and further in view of Dittman, and reconsideration of the application in view of this rejection is requested for the reasons stated hereinabove. The patentability of Claim 47 is again separately asserted.

Claim 45 and independent Claim 41 stand rejected under 35 USC 103(a) as being obvious over Tetra Laval in view of Wittosch, WO 92/11095 (hereinafter Kodak) and Dittman.

Claim 41 requires, inter alia, applying a multilayer curtain having a solids content of at least about 40 weight percent to a paper or paperboard substrate having a velocity of at least about 200 m/min. Tetra Laval discloses a multilayer curtain coating process at undisclosed speed wherein the curtain preferably has a solids content of from 5 to 25%. Wittosch mentions that coating liquids can have solids of more than 20%, but does not disclose multilayer curtain coating, and does not discuss coating speed. Kodak discloses multilayer curtain coating where the improvement is using a thin, very low viscosity (less than 1 mPas) bottom layer. Kodak does not disclose coating with a curtain having a solids content of at least 40%. Dittman does not disclose multilayer curtain coating, and does not disclose coating with the curtain

having a solids content of at least 40%. None of the 4 references disclose a multilayer curtain having a solids content of at least 40%.

Applicants respectfully submit that the references do not support a prima facie case of obviousness. Examiner's argument appears to be that one of ordinary skill in the art would have been motivated to combine these four references in order to provide a multi-functional barrier coating applied at high speed since Kodak teaches that it is economically efficient to coat as fast as possible. However, this argument ignores the fact that Kodak requires a very low viscosity interface layer and a low solids curtain in order to achieve high velocities. None of the cited art suggests that one could simultaneously increase the speed and curtain solids in a multilayer curtain coating process. The Alleborn article makes it clear that single layer curtain coating is a complex process, and that it would be difficult to predict the result of attempting to increase speed and solids simultaneously using a multilayer curtain.

Examiner argues that 'Kodak has "no requirements as to solids "of the upper layers. However, Kodak uses only gelatin coatings in its examples and contains no other teaching regarding solids of the coating composition. It is well known that gelatin based coatings have solids contents far below the solids requirement of Claim 41. Read in context, it is clear that Kodak does not teach or suggest coating with a curtain having a solids content of at least about 40%.

Accordingly, Applicants submit that one of ordinary skill in the art would not have been motivated to pick and choose the elements of Applicants' invention from the references without the application of hindsight. The references contain no teaching that would suggest that a multi-functional barrier coating could be applied to paper or paperboard at a velocity of at least 200 m/min. by a multilayer curtain having a solids content of at least 40%. This conclusion is supported by the teachings of Alleborn; it is clear that it would not be a straightforward task to modify Tetra Laval to arrive at the process of Claim 41 or the process of Claim 45.

Reconsideration of the rejection is respectfully requested for the foregoing reasons.

C. New Claims 48 and 49

The patentability of new Claims 48 and 49 is separately asserted. Claim 48 specifies that the interface layer have a viscosity of at least about 430 centipoise. This is in contrast to the art of multilayer curtain coating, which teaches that low viscosity interface layers are employed.

Claim 48 also specifies that the top layer have a viscosity of at least about 1040 centipoise. This feature is also not taught nor suggested by the prior art.

In addition, Claim 48, and the other independent claims, provide that the top layer provide printability. Examiner argues that it is known that Tetra Laval produces printable packaging material. Assuming, *arguendo*, that is true, it is noted that Tetra Laval does not apply a printable layer via multilayer curtain coating. For example, see Tetra Laval at page 5, lines 6 et seq. which states: "The invention includes a method as described above *further comprising* applying one or more coating layers over the dried layers." (Emphasis supplied.) At the end of page 8, Tetra Laval discloses multilayer coatings. In each instance, the top and bottom layers are an adhesive layer, i.e. not a layer providing printability. There is no teaching in Tetra Laval of applying a multilayer curtain coating having a top layer providing printability.

New Claim 49 depends from Claim 48 and is directed to a process wherein at least one an oil and/or grease barrier layer is adjacent to and in contact with at least one water vapor barrier layer, at least one water resistance layer, or both. This feature is a surprising advantage of the process of the invention, in that it would be unexpected that one could coat adjacent layers comprising incompatible materials. Normally a spacer layer would be employed.

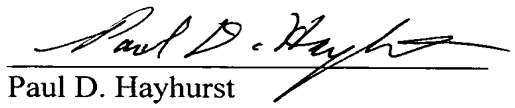
IV. Priority

Examiner's comments regarding priority are noted. However, Applicants believe no response to those comments is needed since there is no rejection based upon those comments.

V. Conclusion

For the foregoing reasons, reconsideration of the claims and passing of the application to allowance are solicited.

Respectfully submitted,



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